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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/577,950

05/02/2006

Yasushi Kusaka

127929

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25944 7590 06/30/2008

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EXAMINER

RIDDLE, KYLE M

ART UNIT

PAPER NUMBER

3748

MAIL DATE

DELIVERY MODE

06/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/577,950	Applicant(s) KUSAKA ET AL.	
	Examiner KYLE M. RIDDLE	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-18 is/are allowed.
- 6) ☒ Claim(s) 11, 12, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 13, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/2/06, 5/31/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Page 4, line 13, “rational” should read --rotational--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Schroeder et al. (U.S. Patent 5,494,007).

Schroeder et al. disclose an electrically driven valve apparatus comprising a valve gear (Figures 1, 5, and 6) of an internal combustion engine converting rotational motion (column 1, lines 53-55) of an electric motor 10 into linear motion by a cam 24, 24', 24", and driving a valve 18 of a cylinder so as to be opened and closed based on the linear motion, the valve gear comprising an electric motor means 100 capable of actuating the electric motor 10 in a forward rotating drive mode (column 2, line 31) in which the cam is continuously rotated in one direction and wherein the electric motor control means 100 comprises forward rotating control means for changing a rotating speed of the cam before the valve starts lifting (column 2, line 49) in the forward rotating drive mode so as to change a working angle of the valve (column 8, lines 9-12),

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the motor being capable of running at any speed with respect to the crankshaft speed (column 1, lines 56-60, column 2, lines 57-62).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being obvious over Schroeder et al.

Schroeder et al. disclose the valve gear apparatus cited above, however, fail to specifically disclose the cam drive means being a rocking drive mode. Rocking or oscillating drive modes are well known in the art and to include such a mode in the apparatus of Schroeder et al. would be a matter of obvious choice to one of ordinary skill depending on torque variables, space considerations, etc.

Allowable Subject Matter

6. Claims 13, 19, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 16-18 are allowed.

Conclusion

8. The IDS (PTO-1449) filed on 2 May 2006 and 31 May 2007 has been considered. An initialized copy is attached hereto.

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9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of 3 patents.

- Chang et al. (U.S. Patent 6,755,166) disclose an electromechanical valve drive with continuous cam rotation and a nonlinear mechanical transformer.

- Kusaka et al. (U.S. Patent 7,055,480) disclose a valve gear of an engine with a torque reduction mechanism.

- Asada et al. (U.S. Patent 7,047,922) disclose a valve driving system with a valve drive for each cylinder.

Communication

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KYLE M. RIDDLE whose telephone number is (571)272-4864. The examiner can normally be reached on M-F (07:30-5:00) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas E. Denion/
Supervisory Patent Examiner, Art Unit 3748

//Kyle M. Riddle//
Examiner
Art Unit 3748

kmr